


Claim Amendments

1. (Currently Amended) A method of washing and drying a pin of a microarray spotting instrument, comprising:
moving said pin to a given position;
washing said pin while in said given position by impinging a tip of said pin with at least one stream of wash fluid; and
drying said pin without substantially moving said pin from said given position.


 2. (Original) The method of Claim 1 wherein moving the pin comprises positioning said pin in a given location in a pin washer/dryer apparatus.

3. (Original) The method of Claim 2 wherein said given location comprises a chamber for receiving the pin.

4. (Original) The method of Claim 3 wherein said chamber is defined by a tube.

5. (~~Canceled~~)

6. (Currently Amended) The method of Claim 5 1 wherein said stream velocity is approximately 3 m/sec.

 7. (Currently Amended) The method of Claim 5 1 wherein multiple streams of wash fluid are directed at ~~a~~ the tip of said pin.

8. (Original) The method of Claim 7 wherein the streams are directed in a swirling pattern.

9. (Original) The method of Claim 1 wherein said position comprises a tube interior, and wherein washing the pin comprises directing a stream of wash fluid at the pin through an aperture in the tube.

10. (Original) The method of Claim 9 further comprising applying a vacuum to the tube to draw wash fluid out of the tube and away from a printhead holding the pin while directing the stream of wash fluid at the pin.

11. (Original) The method of Claim 1 wherein drying said pin comprises flowing air past said pin.

12. (Original) The method of Claim 11 wherein the air is flowed at a speed greater than 20 m/sec.

13. (Original) The method of Claim 11 wherein said position comprises a tube interior, and wherein flowing air comprises applying a vacuum to the tube to draw air through the tube.

14. (Currently Amended) The method of Claim 1 wherein said tip of said pin includes ~~a pin tip having~~ a slot reservoir for holding sample material to be deposited on a microarray substrate, and wherein washing the pin comprises directing a the stream of wash fluid at the slot reservoir.

15. (Original) The method of Claim 1 wherein washing the pin comprises impacting said pin with pulsed streams of wash fluid.

16. (Original) The method of Claim 15 wherein washing further comprises at least partially drying said pin between applications of said pulsed streams of wash fluid.

17. (Original) The method of Claim 1 wherein drying said pin comprises forcing a gas past said pin.

AB 18. (Original) The method of Claim 17 wherein said gas comprises air, said air being of lower humidity than air in an enclosure containing the spotting instrument.

19-101. (Withdrawn)

102. (New) A method of washing and drying a pin of a microarray spotting instrument, comprising:

moving said pin to a given position;

washing said pin while in said given position; and

AB drying said pin without substantially moving said pin from said given position by flowing air past said pin, said air being of lower humidity than air in an enclosure containing the spotting instrument.

103. (New) The method of Claim 102 wherein moving the pin comprises positioning said pin in a given location in a pin washer/dryer apparatus.

104. (New) The method of Claim 103 wherein said given location comprises a chamber for receiving the pin.

105. (New) The method of Claim 104 wherein said chamber is defined by a tube.

106. (New) The method of Claim 102 wherein washing the pin comprises directing at least one stream of wash fluid at the pin.

107. (New) The method of Claim 106 wherein said stream velocity is approximately 3 m/sec.

108. (New) The method of Claim 106 wherein multiple streams of wash fluid are directed at a tip of said pin.

109. (New) The method of Claim 108 wherein the streams are directed in a swirling pattern.

110. (New) The method of Claim 102 wherein said position comprises a tube interior, and wherein washing the pin comprises directing a stream of wash fluid at the pin through an aperture in the tube.

111. (New) The method of Claim 110 further comprising applying a vacuum to the tube to draw wash fluid out of the tube and away from a printhead holding the pin while directing the stream of wash fluid at the pin.

AB 112. (New) The method of Claim 102 wherein the air is flowed at a speed greater than 20 m/sec.

113. (New) The method of Claim 102 wherein said position comprises a tube interior, and wherein flowing air comprises applying a vacuum to the tube to draw air through the tube.

114. (New) The method of Claim 102 wherein said pin includes a pin tip having a slot reservoir for holding sample material to be deposited on a microarray substrate, and wherein washing the pin comprises directing a stream of wash fluid at the slot reservoir.

115. (New) The method of Claim 102 wherein washing the pin comprises impacting said pin with pulsed streams of wash fluid.

116. (New) The method of Claim 115 wherein washing further comprises at least partially drying said pin between applications of said pulsed streams of wash fluid.

117. (New) The method of Claim 102 wherein drying said pin comprises forcing a gas past said pin.

118. (New) A method of washing and drying a pin of a microarray spotting instrument, comprising:

moving said pin to a given position;

washing said pin while in said given position [with a wash fluid while applying a vacuum to remove wash fluid previously applied to said pin;] and

drying said pin without substantially moving said pin from said given position, [said pin being dried by applying a vacuum to draw air past said pin.]

119. (New) The method of Claim 118 wherein moving the pin comprises positioning said pin in a given location in a pin washer/dryer apparatus.

120. (New) The method of Claim 119 wherein said given location comprises a chamber for receiving the pin.

121. (New) The method of Claim 120 wherein said chamber is defined by a tube.

122. (New) The method of Claim 118 wherein washing the pin comprises directing at least one stream of wash fluid at the pin.

123. (New) The method of Claim 122 wherein said stream velocity is approximately 3 m/sec.

124. (New) The method of Claim 122 wherein multiple streams of wash fluid are directed at a tip of said pin.

125. (New) The method of Claim 124 wherein the streams are directed in a swirling pattern.

126. (New) The method of Claim 118 wherein said position comprises a tube interior, and wherein washing the pin comprises directing a stream of wash fluid at the pin through an aperture in the tube.

127. (New) The method of Claim 118 wherein the air is flowed at a speed greater than 20 m/sec.

AB 128. (New) The method of Claim 118 wherein said position comprises a tube interior, and wherein the vacuum to draw air is applied to the tube to draw air through the tube.

129. (New) The method of Claim 118 wherein said pin includes a pin tip having a slot reservoir for holding sample material to be deposited on a microarray substrate, and wherein washing the pin comprises directing a stream of wash fluid at the slot reservoir.

130. (New) The method of Claim 118 wherein washing the pin comprises impacting said pin with pulsed streams of wash fluid.

131. (New) The method of Claim 130 wherein washing further comprises at least partially drying said pin between applications of said pulsed streams of wash fluid.

132. (New) The method of Claim 118 wherein the air drawn past said pin is of lower humidity than air in an enclosure containing the spotting instrument.

AB 133. (New) The method of Claim 118 wherein the vacuum applied to draw air past said pin is greater than the vacuum applied to remove wash fluid.

